Scientific American.

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THE NEW YORK
SCIENTIFIC AMERICAN:
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RUFUS PORTER, EDITOR.

TERMS.—$2 a year—$1 in advance, and the remainder in 6 months.

☞ *See Advertisement on last page.*

The New Roman Road.

[The present Pope has given his consent to build railroads in his dominons, which the former Pope was averse to. The following lines are predicated on his consent.]

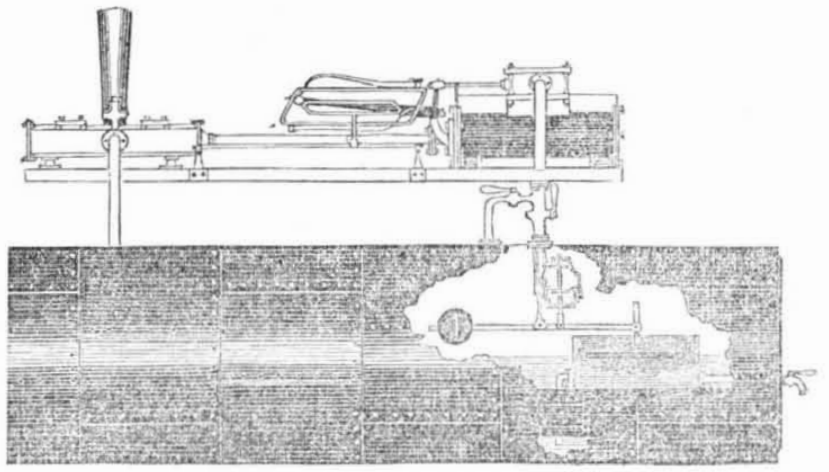
Ancient Romans, ancient Romans—
Cato, Scipio Africanus,
Ye whose fame's eclips'd by no man's,
Publius Æmlianus,
Sylla, Marius, Pompey, Cæsar,
Fabius, dilatory teaser,
Coriolanus, and ye Gracchi
Who gave so many a foe a black eye,
Antony, Lepidus, and Crassus;
And you, ye votaries of Parnassus,
Virgil, and Horace, and Tibullus,
Terence and Juvenal, Catullus,
Martial, and all ye wits beside,
On Pegasus expert to ride;
Numa, good king, surnamed Pampilius,
And Tullus, eke 'yclept Hostilius—
Kings, Consuls, Imperators, Lictors,
Prætors, the whole world's former victors,
Who sleep by yellow Tiber's brink;
Ye mighty names—what d'ye think?
The Pope has sanctioned Railway Bills!
And so the lofty Aventine,
And your six other famous hills
Will soon look down upon a 'Line.'
Oh! if so be that hills could turn
Their noses up, with gesture antic,
Thus would the seven deride and spurn
A Roman work so unromantic:
Was this the ancient Roman Way.
With tickets taken, fares to pay,
Stockers and Engineers, perhaps—
Nothing more likely—English chaps
Brawling away, 'Go on!' for Ito,
And 'Cut along!. instead of Cito;
The engine letting off its steam,
With puff and whistle, snort and scream;
A smell meanwhile, like burnirg clothes,
Flouting the angry Roman nose?
Is it not Conscript Fathers shocking?
Does it not seem your mem'ry mocking?
The Roman and the Railway station—
What an incongruous combination!
How odd, with no one to adore him,
Terminus—and in the Forum!'—[Punch.

Good Advice.

Somebody lays down the following rules to young men in business. They will apply equally well to young and old. 'Let the business of every one alone, and attend to your own.—Don't buy what you don't want. Use every hour to advantage, and study even to make leisure hours useful. Think twice before you spend a shilling; remember you have another to make for it. Find recreation in looking after your business, and so your business will not be neglected in looking after recreation.—Buy fair, sell fair, take care of the profits; look over the books regularly, and if you find an error, trace it out. Should a stroke of misfortune come upon you in trade, retrench—work harder, but never fly the track; confront difficulties with unflinching perseverance, and they will disappear at last, and you will be honored; but shrink from the task, and you will be despised.'

In Russia, coffins are generally brown, but children have pink, grown up unmarried girls sky blue, while other females are indulged with a violet color.

BARNUM'S SAFETY APPARATUS.



INTRODUCTION.—Much has been said of late in and about New York on the subject of the adoption by steamboat proprietors of some apparatus that will in some measure secure the passengers against such casualties as have occurred on board the Excelsior and several other boats. There have been a great variety of inventions introduced for the purpose of preventing explosions; but from the best information we can obtain on the subject, we are of the opinion that Mr. Barnum's apparatus takes a general preference over all others. It consists of an arrangement of machinery, partly within the boiler, and which is constructed on such a self-regulating principle as to keep up a supply of water within the boiler, without any attention from the engineer; and in case that the apparatus itself should become impaired or cease to operate regular, the engineer becomes instantly notified thereof.

EXPLANATION.—It is inexpedient for us to give a full and minute description of the several points and peculiarities of the mechanism of this apparatus; but we may so far explain as to say that a horizontal lever inside of the boiler, being mounted on a pivot near its centre, and connected to a buoy or float at one end, as represented in the engraving, (a part of the surface of the boiler being omitted for that purpose, and not, as some might infer, to represent the apparatus attached to a boiler already burst by an explosion.) One of these floats is placed within a small enclosed box within the boiler, that it may be secure from the effect of foam which sometimes pervades the surface of the water in a steam boiler.—This lever, near its bearing, is connected to a short valve-rod, which governs the valves in a small valve-chamber, whereby the steam is occasionally admitted to operate a small steam engine, placed directly over the boiler; and this engine puts in motion a pump, by which the water in the boiler is replenished. This engine, it will be understood, is never put in operation except when the water in the boiler becomes too low: and when the water rises, the elevation of the encased float closes the valve and stops the engine. The ball on the end of the lever acts as a counterpoise to the float, (which is of stone) that it may be freely influenced by the rising or falling of the surface of the water

The small engine constructed by Mr. Barnum for this purpose, is well adapted to its place, and has several peculiarites whereby the valves, and consequent reciprocal motion of the engine are regulated without the use of a crank or fly-wheel: but of these we cannot at present give a minute description. The whole of this apparatus evinces much scientific ability of the inventor, Daniel Barnum, Esq. resident at present in this city, and who has received many certificates from the first scientific men in the Union, in commendation of his invention.

A Piggish Parvenue.

A proud porker, fancying that it was degrading to his dignity to root in the gutter, came upon the sidewalk, and full of his consequence, promenaded from morning till night, leaving his humbler companions to munch corn, husks and potatoe parings. He fared as people usually do, who from vanity assume a station they are not qualified to fill. In the gutter he would have lived in unnoticed enjoyment. On the walk he got kicked by every passenger, and bitten by every cur, till hungry and bruised he was glad to return to his proper station.—[Ex. paper.

Wanting Workmen back Again.

The proprietors of the cotton mill in Schuylerville, N. Y., who reduced the wages of their hands, a week or two since, says the Schuylerville Herald, twenty-five per cent., are now, and have been for several days, endeavoring to induce them to return to their work, at the old wages; but they are too late, as most of them are engaged to work in other mills.

Hard Climbing.

A man in Orange county was found one night climbing an over-shot wheel in a fulling mill. He was asked what he was doing. He said he was 'trying to go up to bed, but some how or other these stairs won't hold still.' There are many unlucky wights who are laboriously endeavoring to climb fortune's ladder on the same principle.

Power of Imagination.

An amusing incident recently occurred at Williams College, which is thus related by a correspondent of the Springfield Gazette:

The professor of chemistry, while administering, in the course of his lectures, the protoxide of nitrogen, or, as it is commonly called, laughing gas, in order to ascertain how great an influence the imagination had in producing the effects consequent on respiring it, secretly filled the India rubber gas-bag with common air instead of gas. It was taken without suspicion, and the effects, if anything, were more powerful than upon those who had really breathed the pure gas. One complained that it produced nausea and dizziness, another immediately manifested pugilistic propensities, and before he could be restrained, tore in pieces the coat of one of the bystanders, while the third exclaimed, 'this is life. I never enjoyed it before.' The laughter that followed the exposure of this gaseous trick may be imagined.

True Policy.

Under all circumstances there is but one honest course; and that is, to do right and trust the consequences to Divine Providence. 'Duties are ours: events are God's.' Policy, with all her cunning, can devise no rule so safe, salutary and effective, as this simple maxim.

Six thousand pounds of Saxony wool have been purchased in Pennsylvania, at stxty-two and a half cents per pound.

A LIST OF PATENTS

Issued from the 20*th of July to the* 28*th of July,* 1846, *inclusive.*

To M. W. Obenchain, of Springfield, Ohio, for improvement in Carding Machines. Patented 20th July, 1846.

To Russell Wildman, of Hartford, Ct., for improvement in Machinery for forming Hat Bodies. Patented 20th July, 1846.

To William Sherwood, of Ridgefield, Ct., for improvement in Carpet Looms. Patented 20th July, 1846.

To Richard Garsed, of Frankford, Pa., for improvement in Operating Treadle Cams in Looms for Tweeling. Patented 20th July, 1846.

To James Ives, of Hamden, Ct., for improvement in Locks for Carriage Doors. Patented 20th July, 1846.

To Jacob Peebles, of Concordia, La., for improvement in Brick Cisterns. Patented 20th July, 1846.

To Jacob Shermer, of New Valley, Md., for improvement in Winnowing Machines. Patented, 20th July, 1846.

To George Levan, of Gap, Pa., for improvement in Doubling and Twisting and Reeling. Patented 20th July, 1846.

To Joseph Stevens, of Northumberland, N. Y., for improvement in Fences. Patented 20th July, 1846.

To James Boss, of Philadelphia, Pa., for improvement in Ever Pointed Pencils. Patented 20th July, 1846.

To Richard C. Holmes and Jonathan J. Springer, of Cape May C. H., N. J., for improvement in Machinery for Steering Vessels. Patented 20th July, 1846.

To Daniel Hoats, of Mifflingburgh, Pa., for improvement in Threshing Machines. Patented 20th July, 1846.

To Tappan Townsend, of Albany, N. Y., for improvement in Warming Railroad Cars.—Patented 24th July, 1846.

To Elizur L. Booth, of Canandaigua, N. Y., for improvement in Threshing Machines. Patented 24th July, 1846.

To Allen Eldred, of Oppenheim, N. Y., for improvement in Potatoe Ploughs. Patented 24th July, 1846.

To Amos L. Reed, of Pittsburgh, Pa., for improvement in Feeding Nail Plates. Patented 24th July, 1846.

To Joseph Greenleaf, of North Yarmouth, Me., for improvement in Washing Machines. Patented 24th July, 1846.

To James Atwater, of New Haven, Ct., for improvement in Door Locks. Patented 24th July, 1846.

To Richard Flint, of Meriden, Ct., for improvement in Rat-Tail Files. Patented 24th July, 1846.

To Addison Smith, of Perrysburgh, Ohio, for improvement in Magnetic Fire Alarms.—Patented 24th July, 1846.

To Charles F. Johnson, of Oswego, N. Y., for improvement in Turret Clocks. Patented 28th July, 1846.

To H. D. Reynolds, of Mill-Hall, Pa., for improvement in Smut Machines. Patented 28th July, 1846.

To Charles Edward Jacot, of New York City, for improvement in Lever Escapements. Patented 28th July, 1846.

To Ross Winans, of Baltimore, Md., for improvement in Locomotive Carriages. Patentented 28th July, 1846.

To Jonathan Knowles, of Lowell, Mass., for improvement in Children's Chairs and Wagons. Patented 28th July, 1846.

To Moses Miller, of Fort Ann, N. Y., for improvement in Sleighs. Patented 28th July, 1846.

To William Hatch, of Medford, Mass., for improvement in Spike and Nail Machines.—Patented 28th July, 1846.

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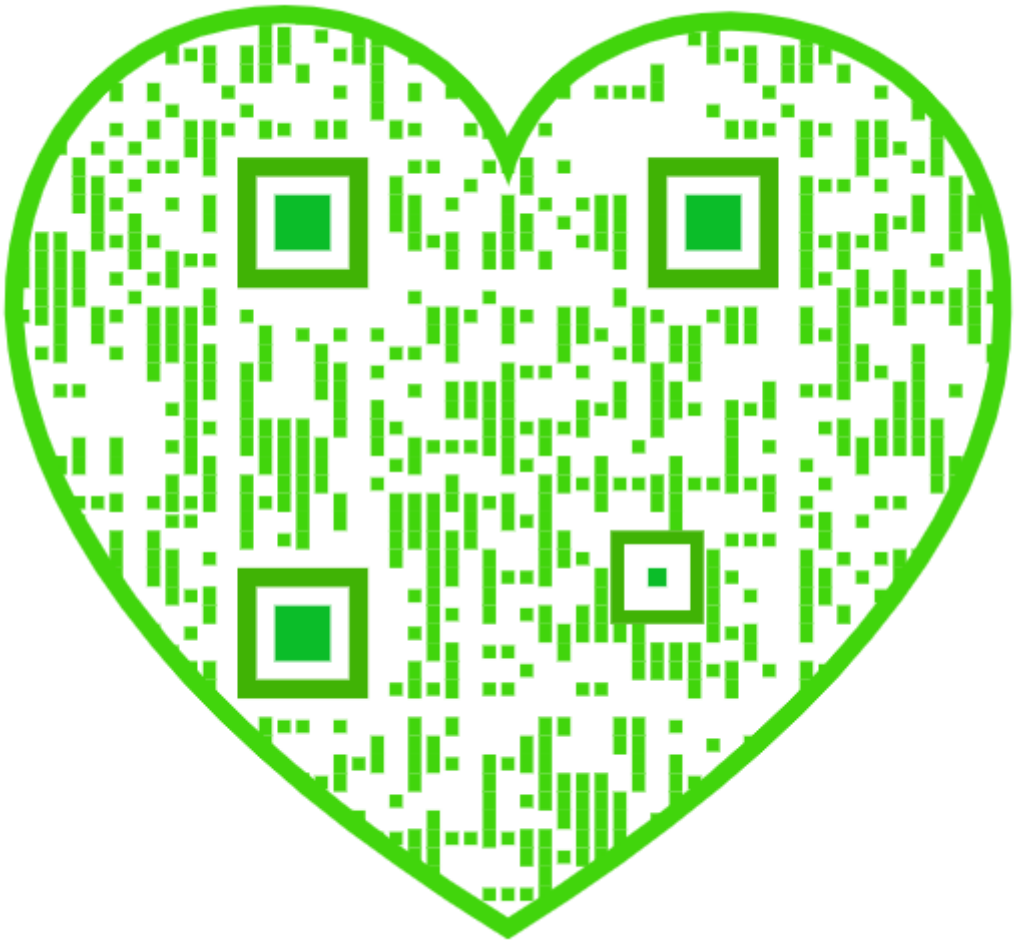

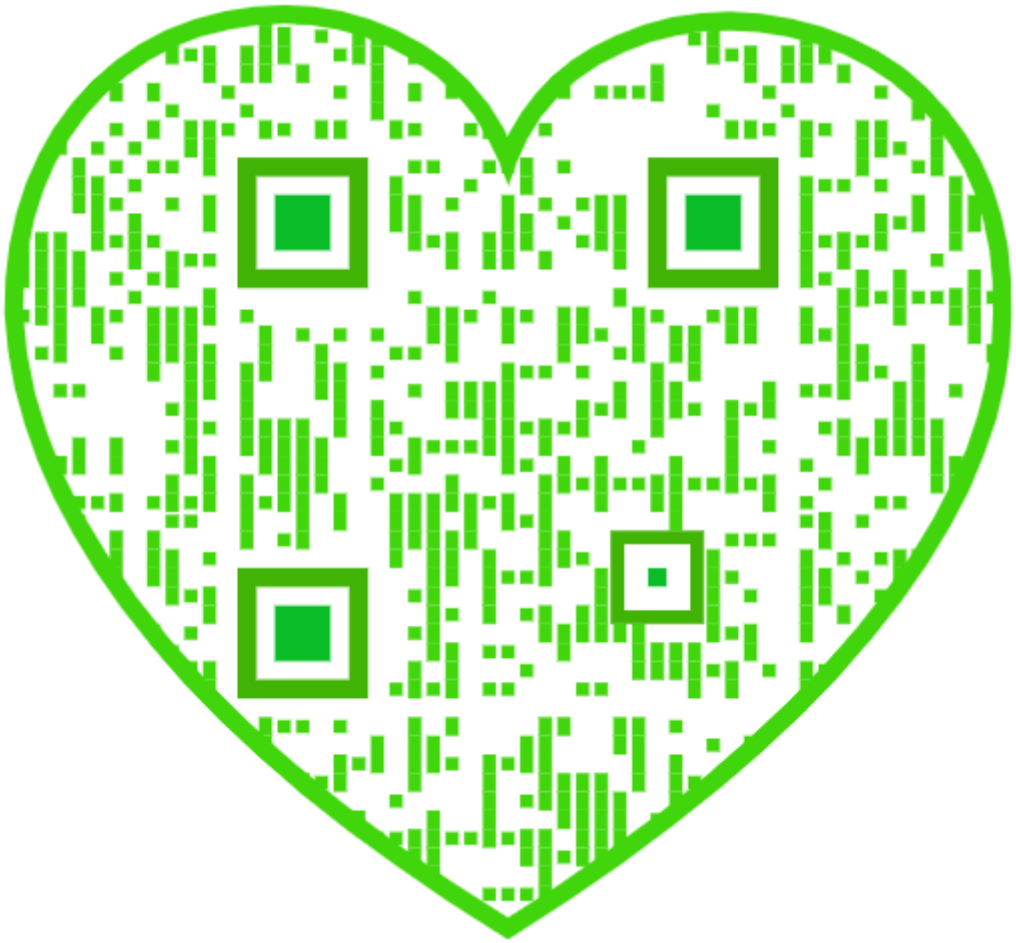

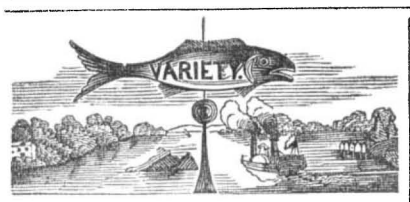

Old Bachelors.

They are wanderers and ramblers—never at home,
Making sure of a welcome wherever they roam.
And ev'ry one knows that the bachelor's den
Is a room set apart for these singular men—
A nook in the clouds, of some five feet by four,
Though sometimes, perchance, it may be rather more,
With skylight, or no light, ghosts, goblins and gloom,
And ev'ry where termed, 'The Bachelor's Room.'

These creatures, they say, are not valued at all,
Except when the herd give a Bachelor's ball.
Then drest in their best,
In their gold broidered vest,
It is known as a fact,
That they act with much tact,
And they lisp out 'How do?'
And they coo and they woo,
And they smile, for a while,
Their fair guests to beguile;
Condescending and bending,
For fear of offending,
Though inert, And they spy,
They exert, With their eye,
To be pert, And they sigh
And to flirt, As they fly.
And they whisk, and they whiz,
And are brisk, when they quiz.
For they meet, Advancing,
To be sweet, And glancing,
And are fleet, And dancing,
On their feet, And prancing.
Sliding and gliding with minuet pace,
Piroueting and setting with infinite grace.
And jumping, And racing,
And bumping, And chasing,
And stumping, And pacing.
And thumping, And lacing.
They are flittering and glittering, gallant and gay,
Yawning all the morning, and lounging all day,
But when he grows old,
And his sunshine is past,
Three score years being told.
Brings repentance at last.
He then becomes an odd old man:
His warmest friend's the frying pan;
He's fidgety, fretful and weary; in fine,
Loves nothing but self, and his dinner and wine.
He rates and he prates,
And reads the debates:
Despised by the men, and the women he hates.
Then prosing, And pouring,
And dozing, And snoring,
And cozing, And boreing,
And nosing, And roaring,
Whene'er he falls in with a rabble,
His delight is to vapor and gabble.
He's gruffy, And musty,
And puffy, And tusty,
And stuffy, And rusty,
And huffy, And crusty,
He sits in his slippers, with back to the door,
Near freezing, And grumbling,
And wheezing, And mumbling,
And teazing, And stumbling,
And sneezing, And tumbling,
And curses the carpet, or nails in the floor.
Oft falling, Oft waking,
And bawling, And aching,
And sprawling, And quaking,
And crawling, And shaking,
His hand is unsteady: his stomach is sore,
He's railing, Unchcery,
And failing, And dreary,
And ailing, And teary,
Bewailing, And weary,
Groaning and moaning,
His selfishness owning.
Grieving and heaving,
Though nought is he leaving,
But pelf and ill health,
Himself and his wealth.
He sends for a doctor, to cure or to kill,
Who gives him advice, and offence, and a pill,
And drops him a hint about making his will,
As fretful antiquity cannot be mended,
The mis'rable life of a bachelor's ended.
Nobody misses him, nobody sighs,
Nobody grieves when the bachelor dies.

Wellman's Illustrated Botany.

We have received the October number of this incomparable work, and find it equal in all respects to its "illustrious predecessors." Among the flowers presented in full colors, by way of illustration, we notice the Scarlet Pimpinel, China Aster, Blue Hepatia, Cerus Speciosus, Agrimonia Eupatoria, besides several other sketches of buds, sections, &c. We esteem this work worth at least double the publishers' price,—$3 per annum. Published at 116 Nassau street.

Literary Emporium.

We have hitherto neglected to notice the September and October numbers of this serious, rational and elegant periodical. Each number is embellished with beautiful portraits, landscapes and flowers, and contains the most useful and interesting reading matter, as well as choice poetry and occasional music. Terms $1 per annum. By J. K. Wellman, 116 Nassau street.

A Delicate Compliment.

Washington was sometimes given to pleasantry. Journeying east on one occasion, attended by two of his aids, he asked some young ladies at a hotel where he breakfasted, how they liked the appearance of his young men! One of them promptly replied, 'We cannot judge of the STARS in the presence of the SUN!'

Fatal Deer Fight.

The skeleton heads of two deers, their antlers so closely interlocked that they cannot be disengaged without violence, were found about a month ago by a gentleman while hunting in Nassau county, East Florida. The ground for a quarter of an acre was completely cut up by their hoofs.

A Provoking Blunder.

The letter bags for the steamer Cambria, despatched from this city, and containing upwards of ten thousand letters for Europe, was taken from the Boston Post Office by a country stage driver, through mistake, and the Cambria was compelled to sail without them. They were returned to this city.

Curious Needlework.

A complete map of the State of Pennsylvania, wrought in lace—in which the town, counties, rivers, &c., are all distinctly shown, each county being worked in a style of lace different from those adjoining—is being exhibited in Baltimore, and commands much admiration.

The Credit System.

We infer, from certain polite hints and intimation, in the 'Massachusetts Farmers' and Mechanics' Leger,' that that paper is circulated on trust. If so, the publishers are in no danger of wanting business for some years to come.

Charcoal Road.

The citizens of Yazoo, Miss., have determined to make a charcoal road over the valley swamp of that place. Sixty hands cutting timber will burn and spread the coal over two miles in thirty days—the embankments being already thrown up.

Quick Work.

The Baltimore Sun says—'A communication was made from *Buffalo to Baltimore* last week, and an answer was received at the telegraph office in the former city in about *two hours!*'

Oregon Currency.

By an act of the Oregon Legislature, wheat is made a lawful tender, in payment of debts or taxes, at the market prices, when delivered at such places as it is customary for the merchants to receive it.

Suffering by Success.

It is reported that a gentleman congratulated Mr. Polk on having carried all his measures through Congress. Mr. Polk replied, 'Yes, I have carried all of them through, and am the weaker for the passage of e one of them.'

A Rich Ore.

The Detroit Advertiser, in an article upon the nature of the ores in the Lake Superior region, remarks that Messrs. Robbins and Hubbard, of that city, have recently assayed a specimen of native copper from Lake Superior, and found in 12 ounces of copper, not only 1 3-4 ounces of pure silver, but several grains of gold!

Musical.

The gross receipts of a late musical festival at Birmingham, amounted to $56,000. The excitement was caused by performing Mendleson's Messiah, which we learn is to be brought out in this city.

Singular Accident.

The steamboat Highland having got aground near Turkey Island, on the Mississippi, a large tree, three feet in diameter, fell directly across the boat, smashing the cabin, breaking the connecting pipe, and seriously injurying the pilot.

Combined Accomplishments.

Mr. S. Lover, who recently arrived in this city, is said to be a good poet, a good painter, a good musician, full of wit, anecdotes and pleasantry—it is impossible to pass a dull evening in his company.

Marriage of Rossini.

This celebrated composer was married at Bologna, on the 16th of August, after a courtship of 16 years, to Mademoiselle Olympe Bearrien of Paris. It may change the turn of his muse.

Great Luck.

A poor Englishman, with a wife and family living in St. Louis, has had a fortune of $265,000 in money, and a family estate worth $115,000, recently left him by a deceased relative.

Zinc Mines.

There are several mines of zinc in New Jersey, one of which is said to consist of a deposit 600 feet in length, and is thought to contain ore worth $2,000,000.

A Monstrous Woman.

The Ohio State Journal says that there is a woman in Pickaway county, in that State, who weighs 46 pounds!

Old Boy.

A southern paper advertises a runaway boy, *thirty-six years ofage!*

By a recent telegraphic arrangement, the papers in Albany, Troy, Utica, Syracuse, Auburn, Rochester and Buffalo, are furnished with reports from New York twice a day,—at 2 and 8 P. M.

The Connecticut river is reported to be lower than it has been known within the remembrance of the oldest inhabitants. It is reduced to a mere brook.

A company formed in Boston has commenced operation on a copper mine in Cumberland, R. I. About 4000 lbs. of ore were taken out a few days since, and yields about 20 per cent.

The Hon. Louis McLane gets a salary of $5000 a year—nearly $100 per week—for holding the office of President of the Baltimore and Ohio Railway Company.

An imperial *quarter* of Indian corn, is 480 pounds, which is equal to eight bushels of sixty pounds each. We suppose some of our readers would like to know about that.

A solution of copper is an excellent wash for purifying sinks, and removing all unpleasant effluvia. Two or three applications will be effectual.

We are informed that the steamer Buffalo is making arrangements for the adoption of Barnum's Safety Apparatus.

Two iron steamboats, of 70 tons each, are to run between Philadelphia and Reading, Pa., carrying freight and passengers.

The editor of the Cincinnati Commercial says that he has a project for connecting the old and new worlds by telegraph.

Twelve hundred and thirty-four miles of magnetic telegraph are reported to be in actual operaion in the United States.

An association of capitalists at Worcester county, Mass., are exploring a vein of copper in Greenfield.

The True Ornament.

'The ornament of a meek and quiet spirit.'

BY MISS E. J. ANDREWS.

I ask not for the glittering wreath,
Of India's sparkling diamonds rare,
To deck my brow, while oft beneath,
There throbs a heart with heaviest care.

I ask not for the gilded chain,
Of perishing and worthless gold,
To clasp my neck, while oft in vain
The heart's best sympathies unfold.

Oh! give me not the worthless dust,
For which vain, anxious mortals toil,
To treasure up where moth and rust,
Doth soon corrupt the hoarded pile.

I covet not the gay attire,
In which vain beauty oft appears,
Oft that which wondering crowds admire,
Needeth far more their heartfelt tears

But there's an ornament I crave;—
To grant, vain world, it is not thine,
It floateth not o'er yon proud wave,
Nor yields it me earth's richest mine.

Oh, may it be a guileless heart!
In heaven's own sight of priceless worth!
Where nought corrupting e'er hath part,
Pure, as the source which gave it birth.

A spirit meek and pure within;
May this, alone, my life adorn,
Unsullied by the touch of sin,
Though subject to the proud world's scorn.

This ornament, O God of Love!
'Tis Thine, and Thine alone, to give;
Oh, may I its rich beauties prove,
And in its full possession, *live!*

Bethel, Conn., 1846.

Female Piety.

The gem of all others which enriches the coronet of woman's character, is unaffected piety. Nature may lavish much on her person; the enchantment of her countenance, the grace of her mind, the strength of her intellect; yet her loveliness is uncrowned till piety throws around the whole the sweetness and power of its charms. She then becomes unearthly in her desires and associations. The spell which bound her affections to the things below is broken, and she mounts on the silent wings of her fancy and hope to the habitation of God, where it is her delight to hold communion with the spirits that have been ransomed from the thraldom of Earth and wreathed wilh a garland of glory. Her beauty may throw a magical charm over many; princes and conquerers may bow with admiration at the shrine of her beauty and love; the sons of science may embalm her memory in the page of history; yet her piety must be her ornament, her pearl. Her name must be written in 'The Book of Life,' that when the mountains fade away, and every memento of earthly greatness is lost in the general wreck of nature, it may remain and swell the list of that mighty throng who have been clothed in the mantle of righteousness, and their voices attuned to the melody of Heaven. With such a treasure, every lofty gratification on earth may be purchased; friendship will be doubly sweet; and sorrow will lose their sting; and the character will possess a price fa above rubies: life will be but a pleasant visit to earth, and entrance upon a joyful and perpetual home. And when the notes of the last trump shall be heard, and sleeping millions awake to judgment, its possessor shall be presented faultless before the throne of God with exceeding joy, and a crown of glory that shall never wear away. Such is piety. Like a tender flower, planted in the fertile soil of woman's heart, it grows, expanding in its foliage, and imparting its fragrance to all around, till transplanted, and set to bloom in perpetual vigor and unfading beauty, in the Paradise of God.

Iron Ore.

One of the most valuable beds of iron ore ever discovered has been found in the northeast corner of Dodge county, Wisconsin, and is said to yield ninety per cent. The deposite is 30 feet thick.

'Pursue your calling with diligence, and your creditor shall not interrupt you.'

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NEW INVENTIONS.

Lewis's Reversible Faucet Filters.

Highly favorable as our opinion may be of the several excellent filters which have been introduced, we cannot avoid giving a preference to the one recently invented by Mr. S. H. Lewis. It consists of a very neat faucet, calculated to be attached to a common Croton or other hydrant, and in connection with the faucet key, is a circular chamber, three inches in diameter, within which is a circular filter consisting of a quantity of cotton cloth, flannel sponge or porous porcelain (which is preferred) compressed between two perforated metallic disks: and the faucet key is so constructed that by turning it to the right, the water is permitted to flow through the filter in one direction; but its course is reversed and it is made to flow in the opposite direction through the filter by turning the key to the left. The filter is thus cleansed at pleasure without any trouble, on examination of the filter or chamber. They may be seen at 28 1-2 Broadway.

West's Cheap and Convenient Filter.

For the thousands of families in this city whose houses are not furnished with the Croton water-pipes, a neat portable filter, recently invented by Mr. N. West, of this city, is as near perfection, in convenience and utility, as could be furnished for the low price of *one dollar*, and should find a place in every house or shop where the Croton water is used. It consists of two conical pails, one within the other; the first is furnished with an efficient filter at the bottom thereof; and the other has a faucet, by which the water is drawn off as occasion requires. They may be found at 156 Delancy street.

Improved Yoke for Oxen.

This yoke is constructed with sliding blocks attached to the under side of the beam of the yoke, near each end, and each sliding block is attached to the beam by bolts which pass through mortises so that the blocks may be made to slide occasionally to the right or left. To these blocks are attached the bows, the position of which are adjusted by guage screws; and by the sliding of the blocks, the distance of the oxen from each other may be regulated. The middle of the yoke is furnished with a draught staple or eye-bolt which is moveable and regulated by a hand screw at the top, whereby the *pitch* of the draught it regulated. Invented by David Chappel, and entered at the Patent Office, Sept. 3d.

Another Improvement in Stoves.

Messrs. Hartshorn, Payson & Ring entered at the Patent Office, September 3d, an improved stove, in which they claim the combination of the common wood stove and cylinder coal stove, so that the coal may be burned alone, and the draught so arranged as at the same time to heat the wood stove with the same heat, and if wood alone should be burned, then the draught should be so managed and arranged as at the same time to heat the side radiators and coal cylinders. A minute description of this improvement, is not, in this place, essential.

Iron Shingles.

We have never been able to understand the reason why iron has so long been neglected as a covering for roofs, but are gratified to learn that Mr. Wm. Beach, of Troy, N. Y., has invented and patented a mode of using cast iron plates for covering roofs. They are about one foot square, and are made to fit one into another, so as to render the roof water tight, by applying white lead to the joints. It can be afforded at 16 cents the square foot, and probably may be so far improved as to cost no more than slate, and will be much more permanent and safe. We see no difficulty in dispensing with white lead, however, and making the seams tight without it.

Improvement in the Railroad Truck.

This improvement was entered Sept. 5th, by John F. Rogers. What he claims is the combination of the balance beam with the centre beam, by means of the recesses in the centre beam, spring plates, having tubes thereon on which the springs rest, and attached to the beam by bolts, by which a compact and secure connection is formed, while all the necessary fexibility is preserved.

THE GREAT FAIR.

The American Institute appears emblematical of the genius of our countrymen—unsubdued even by conflagration, and looking upon obstacles as incentives to redoubled effort. Contrast the smoking ruins of Niblo's with Castle Garden, having its whole amphitheatre enriched with a tastefully arranged collection of the most varied products of American arts and manufactures, and behold an evidence that we even inherit persevcrance, enterprize and skill. We here see the embodiment of the excellence of greatness of our country—an unerring index of our future advance—if it be not that the signs of the times indicate that madness in our rulers which precedes and forebodes heaven's wrath. But it cannot, it must not be, that the blood of *labor* shall cry from the ground of America. It must be sheathed, it must be protected. Protection is nature's first law. Expose the bleating flocks to the hungry beasts of the forest; cut the wings and pluck the feathers of her whom nature teaches to protect her brood from cold and rain; say to the mother to leave her babe unprotected and in free competition with all the elements of destruction, sooner than refuse the protection of our Government to the hitherto flourishing American manufactures.

Castle Garden, or more correctly Castle Clinton, is at the southern evtremity of our city. It was built for a fort—is of a circular form, of solid mason work, surrounded by the waters of the bay—connected to that ornament of the city, the Battery, by a long bridge. This bridge the managers have covered with a roof, and thus secured a very eligible and spacious apartment for the exhibition of carriages, sleighs, carts, farming implements and machinery in great variety. Thence the ingress suddenly opens into view the whole interior, creating the most lively and pleasing emotions.

In the columns of the Scientific American we shall endeavor to give those details that will, we trust, interest our readers and promote the cause of American improvements.

BATHS.

After leaving the bridge, the passage way to the interior of the Castle is ornamented on both sides with a pleasing display of Baths—the immersion bath made of tin and of iron, and these combined with the showering apparatus. The shower baths are variously constructed, and some of them are of finished workmanship and costly material. Stebbin's Patent Furniture shower Bath presents itself first in the form of a very convenient washstand, with all its out fit; it is next easily converted into a work stand; with equal dispatch it assumes the form of a shower bath, furnished with every requisite. We regard this as an ingenius piece of furniture, that will greatly increase the use of the shower-bath, and thus add to the health of the community.

SOFA BEDSTEADS.

Much ingenuity has been expended in combining the Sofa and Bedstead The first that attracted our attention was that manufactured by Mr. John A. Robson, 30th st. and 8th Avenue. It is on the double cone spring, so constructed that using it as a bed does not affect the cushion, and vice versa. The matrass or bed is 4 by 6 feet, without an intervening bar. It is exceedingly simple, of admirable contrivance, and of moderate price.

CUTLERY.

The display of American Cutlery is rich, affording a most gratifying evidence of the progress of the useful arts among us. Our neighbors, J. C. Nixon & Sons, in the Sun Buildings, feel quite confident that they will, as usual, carry off the premiums, particularly for their much celebrated tailor's shears. In the manufacture of engravers' tools; they challenge not only all America, but the world itself.—They manufacture for customers, from whom their articles have derived their just and solid reputation.

(*To be Continued.*)

Improved Steam Printing Press.

We have recently seen a model of a new Steam Printing Press, the invention of Mr. Wm. W. Marston, a young and ingenious mechanic of this city. A mass of other matters prevents our gtving a description at present; we shall probably procure an engraving, however, and publish a full description in a few days.

Information to persons having business to transact at the Patent Office.

OF MODELS.

(*Continued from No.* 2.)

SEC. 26. The law requires that the inventor shall deliver a model of his invention or improvement when the same admits of a model. The model should be neatly made, and as small as a distinct representation of the machine or improvement, and its characteristic properties, will admit; the name of the inventor should be printed or engraved upon, or fixed to it, in a durable manner. Models forwarded without a name, cannot be entered on record, and therefore liable to be lost or mislaid.

SEC. 27. When the invention is of 'a composition of matter,' the law requires that the application be accompanied with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment.

ON GRANTING ANEW LOST PATENTS.

SEC. 28. The third sec. of the act of March 3, 1837, provides:

'SEC. 3. And be it further enacted, That whenever it shall appear to the Commissioner that any patent was destroyed by the burning of the Patent Office building on the aforesaid fifteenth day of December, or was otherwise lost prior thereto, it shall be his duty, on application therefor by the patentee, or other persons interested therein, to issue a new patent for the same invention or discovery, bearing the date of the original patent, with his certificate thereon, that it was made and issued pursuant to the provisions of the third section of this act; and shall enter the same of record; Provided, however, That before such patent shall be issued, the applicant therefor shall deposit in the Patent Office a duplicate, as near as may be, of the original model, drawings, and description, with specification of the invention or discovery, verified by oath, as it shall be required by the Commissioner; and such patent and copies of such drawings and descriptions, duly certified, shall be admissible as evidence in any judicial court of the United States, and shall protect the rights of the patentee, his administrators, heirs, and assigns, to the extent only in which they would have been protected by the original patent and specification.'

PROCEEDINGS ON APPLICATIONS FOR PATENTS, AND ON APPEALS FROM DECISIONS OF THE COMMISSIONER.

(Act of 1836, Section 7.)

SEC. 29. 'That on the filing of any such application (consisting of petition, specification, model, and drawings, or specimens,) and the payment of the duty hereinafter provided, the Commissioner shall make, or cause to be made, an examination, of the alleged new invention or discovery; and if, on any such examination, it shall not appear to the Commissioner that the same had been invented or discovered by any other person in this country prior to the alleged invention or discovery thereof by the applicant, or that it had been patented or described in any printed publication in this or any foreign country, or had been in public use or on sale, with the applicant's consent or allowance, prior to the application, if the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor. But whenever on such examination it shall appear to the Commissioner that the applicant was not the original and first inventor or discoverer thereof, or that any part of that which is claimed as new had before been invented or discovered or patented, or described in any printed publication in this or any foreign country as aforesaid, or that the description is defective and insufficient, he shall notify the applicant thereof, giving him briefly such information and references as may be useful in judging of the propriety of renewing his application, or of altering his specification to embrace only that part of the invention or discovery which is new. In every such case, if the applicant shall elect to withdraw his application, relinquishing his claim to the model, he shall be entitled to receive back twenty dollars, part of the duty required by this act, on filing a notice in writing of such election in the Patent Office; a copy of which, certified by the Commissioner, shall be a sufficient warrant to the Treasurer for paying back to the said applicant the said sum of twenty dollars. But if the applicant, in such case, shall persist in his claim for a patent, with or without any alteration his specification, he shall be required to make oath or affirmation anew, in manner as aforesaid; and if specification and claim shall not have been so modified as, in the opinion of the Commissioner, shall entitle the applicant to a patent, he may appeal to the Chief Justice of the United States Court for the District of Columbia, who may affirm or reverse the decision of the Commissioner of Patents, in whole or in part, and may order a patent to issue; or he may have remedy against the decision of the Commissioner of Patents, or the decision of the Chief Justice of the United States Court for the District of Columbia, by filing a bill in equity in any of the United States Courts having jurisdiction, as hereinafter explained.

(*To be continued.*)

Consolation for the Christian.

'Eye hath not seen, nor ear heard; neither have entered into the heart of man, the things which God hath prepared for those that love Him.'—1 Cor. ii: 9 But it is said in the words following, that God hath revealed them unto us by his Spirit. In this, we are not to understand, that the excellent things spoken of, are *communicated* to men; but that by the aid of the divine Spirit they are enabled to receive such sublime and brilliant ideas of the glorious things which are prepared for them, that they are filled with sublime and unspeakable joy, though they find it utterly impracticable to describe these things to another, so as to be understood. It is like the new name which no man can know, but him to whom it is given: and although, in the solicitude of those who have been favored with a view of these things, to represent them to others, the most full and expressive forms of language have been put in requisition, it has in every instance failed to convey the least correct idea on the subject: because no man can see, or in anywise appreciate the excellence of these things, without the aid of the Spirit of Truth. But to those who obtain such enlightened views—and every man may, or might, obtain them,—the glorious things prepared are as the 'pearl of great price,' which, when a man hath found, he is ready to sacrifice all things else,—riches, honors, friends, pleasures, reputation in the world, or even life itself,—to obtain it. Neither Adam nor Eve, in their sinless, paradisial state, could have had any correct idea of such delectable and glorious excellence of blessings as are prepared for those who become 'joint heirs of the Son of God,' through the blood of a crucified Saviour: for, had they been capable of seeing or imagining such things, they would never have fallen. There can be no question but that the glorious consolation of the faithful and obedient believers, will incomparably, not to say infinitely, excel that of the primitive state of man, or anything which could have been by man attained, if the blessed Son had not suffered. Let the most brilliant and soaring imagination exert its most strenuous and happy efforts in conceiving, arranging and representing to itself the highest possible state of bliss and glory, and it will fall as far short of the reality of the immortal state of the glorified saints,—the salvation purchased by the suffering of Christ,—as a mere shadow of the most beautiful picture comes short of the rich coloring of the original. And this fact is well known to those who have had the beauties of the 'world to come' revealed to them by the divine Spirit. These statements may appear strange to those who are accustomed to look upon the popular *reverend clergy*, fashionable church members and wealthy deacons, as choice specimens of the saints of the Lord. The true, and most favored saints, are generally found among those who are subject to poverty and tribulation, in this world. But these blessings of the gospel are free for all who will conform to the requisitions plainly expressed by our Savior, and recorded by the evangelist, and practicable by all who are willing to forsake all things else, for the sake of this great and everlasting salvation.

A cotton manufacturer in New-Haven lost his operatives, last week, by attempting to reduce their wages.

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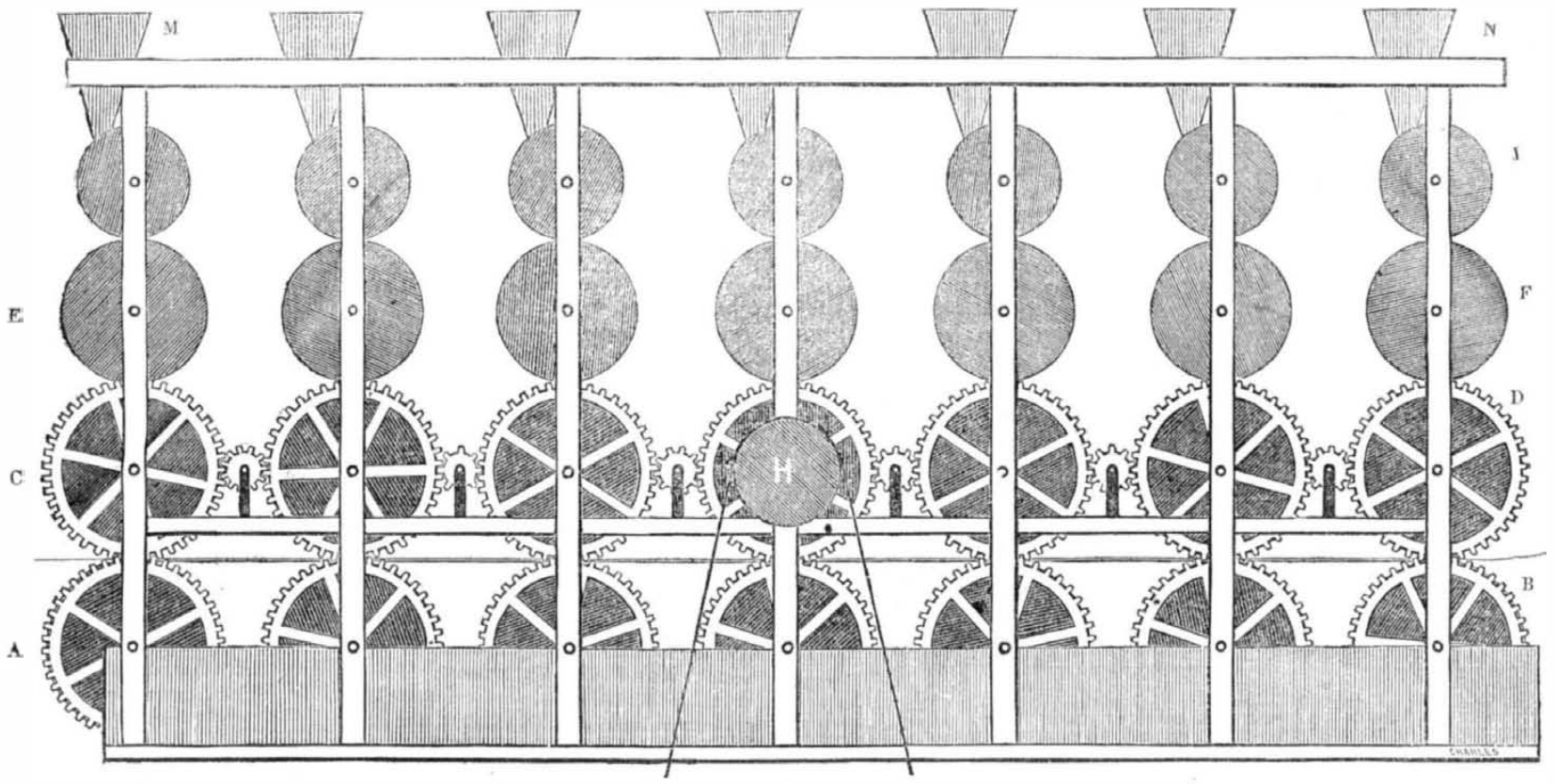
THE COLOR PRINTING MACHINE.



INTRODUCTION.—There have appeared, in modern times, but few machines, to which more importance apparently attaches, than to the one here presented. It is well known that the best paper hangings, or room-papers command from $1 to $1,50 per piece, of eight yards, while most of those of American manufacture are sold for 25 to 50 cents per piece; and this difference is occasioned by the difficulty and extra labor of applying a great variety of different colors. But by means of this machine, seven, twelve, or even twenty different colors, may be accurately applied by one operation, and with less labor than is required to print with a single color, by the ordinary method; and thus the manufacturer will be enabled to sell, for 50 cents, such patterns as ordinarily cost a dollar or more, to either import or manufacture them.

EXPLANATION.—The first row of geer wheels, A B, are attached to the ends of a row of cylinders, each cylinder being 30 inches long, and 3 inches in diameter. These cylinders support a broad, endless apron or belt, which passes over the whole series, and supports the strip of paper as it passes through the machine to receive the colors. The second series of wheels, C D, are attached to cylinders of the same dimensions of those in the first row, and are connected to each other by intervening pinions, whereby a uniform velocity is maintained through the whole series. The peripheries of this row of cylinders are cut in figures, according to the design of the pattern to be worked. The figures are left prominent, so as to come in contact with the paper upon the apron, as the cylinder revolves; the surface between the figures, being cut away to the depth of one eighth of an inch. Each of these printing cylinders contains sections of the figures to be printed, and is calculated to work a different color from the others; and the sections of figures on each cylinder are calculated to match those of the others, so as to complete the entire figure in all its colors on the paper. The entire machine is put in operation by a band, passing over the band-wheel, H. The third row of cylinders, E F, are distributing cylinders, which are put in motion by mere contact with the series below, and receives the several colors from the small cylinders in the upper rows, and distributes the same upon the prominent figures of the printing cylinders. The fourth series, I J, are called the receiving cylinders, because they receive the colors from the hoppers or reservoirs, M N. and impart them to the series below. The cylinders of the third and fourth rows, are covered with cloth, and the bottom of each hopper is so nicely fitted to its respective cylinder, that but a small quantity of each color (which passes through an aperture at the bottom of the hopper) adheres to the cloth periphery of the cylinder. The colors ordinarily used consist of various pigments, ground a nd mixed in water, with a solution of glue. The principles of this mode of color printing have been satisfactorily tested, though the entire machine has not yet been constructed: and any person who may be disposed to construct and enjoy the exclusive use of this invention, may have the most favorable terms.

NEW INVENTIONS.

A New Brick Machine.

Messrs. Culbertson, McMillen & Co. of Cincinnati, have recently put in successful operation, a new machine, a description of which is given in a Cincinnati paper, as follows:

'A frame of fourteen moulds, one brick to each is drawn by the power of steam between two press rollers, the lower one of which enables the frame to support the pressure of the upper roller, and being run through backwards and forwards equalizes the pressure over the entire face of the brick. These, after undergoing in this mode a pressure of nearly one hundred tons to each brick, a pressure which covers clay, apparently perfectly dry, with a coat of glossy moisture, are raised above the surface of the mould by parallel levers, and are then delivered over to a bench or table by self-acting machinery, whence they are taken in barrows to the stacker at the kiln.

The dry clay is shoveled into a hopper, and if more of the material is pressed into a mould than serves to make a brick, a knife which ranges with the surface of the mould, shaves off the surplus.

Two hands shoveling, two more taking off, and one at the barrow, constitute a gang of five persons who turn out from 30,000 to 35,000 per day of ten hours. As brick makers' days are from sun to sun, say twelve working hours per day, during the season, from 46 to 50,000 bricks, per day, may be made by a single machine. This is, however, by no means the most important feature in the invention.

In the ordinary mode of making bricks, the manufacturer cannot begin operations for the season, until the spring has so far advanced that working in wet clay will no longer chill his moulders' hands On the same account, he loses also morning hours, until the advance of summer enables his hands to put in the whole period of daylight. He loses, also, sometimes days together—from the entire stoppage of his operations in the rainy weather, which forbids the bricks being put out to dry. In making press brick, all these difficulties are obviated. As a theory, operations in this mode can go on throughout the entire winter, frost never extending into solid clay; but as a practical business, it can be conveniently carried on two months earlier and one month later than in the ordinary mode. Pressed brick, made by these machines, are also stronger than their competitive article, the last of equal hardness in burning, always giving way when struck by the pressed bricks, as I have witnessed. Indeed, it cannot be otherwise, the one being porous and the other as compact as the enormous pressure employed can make it.

The machine, it must be apparent, offers peculiar advantages in turning out brick without occupying the ordinary brick yard space necessary for spreading wet brick out to dry. It affords great economy in time, owing to its operations being independent of frost or rains. To every new and thriving place commencing the making of bricks, it dispenses with the necessity of bringing skilful workmen from other places—in short, it enables every man to be his own brick-maker. Under these considerations, I anticipate an extensive sale of these machines, especially for placee at a distance.

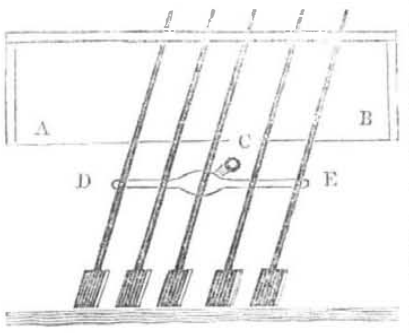
Marble Saw Mills.

We are informed that a large mill for sawing marble is in course of erection at Brandon, Vt. The marble in that vicinity is principally of a beautiful white, and of a fine texture, though not very hard.

Railroad Locks.

It is reported that locks for elevating railroad trains, from one level to another, are coming into successful use in France. It appears to us to be much behind the age, since, by certain American inventions, an ordinary train may be elevated 100 feet in five minutes, by the engine alone.

The Vertical Propeller.



We have alluded to this subject in a former number, and now present one of the several plans which have been introduced within the present year, although we are not fully authorised to give the name of the inventor of this particular plan. We have preferred to represent the paddles and crank unconnected with an apparene vessel or section thereof, but must require the reader to uppose that the line A B is the level of the railing of the boat, and that the crank smaft E projects from the side, while the crank-pivot governs the motion of the walking bar D E, and with it the paddles, which are supposed to be just now dipping in the surface of the water. It will be understood that the motion of the walking bar being circular, and that of the heads of the paddles being vertical and nearly rectilinaer, the motion of the blades of the paddles must be eliptical, inclining to the horizontal; and that the position of the paddles is kept so nearly vertical that they will meet with less resistance in entering or leaving the water than those of a common paddle wheel, while the atmospheric resistance to be encountered thereby is much less. There appears no reasonable doubt that this plan might be made to succeed well on a larger scale, though it is very doubtful whether anyof the steamboat proprietors can be persuaded to adopt it until it has been more thoroughly tested by experiment.

A Great Astronomical Discovery.

A late number of an astronomical journal published at Altona, near Hamburg, contains a long article by Dr. Maedler, director of the Dorpat Observatory, Russia, well known to the astronomical world, in which he announces the extraordinary discovery of the *grand central star or sun*, about which the universe of stars is revolving, our own sun and system among the rest.

This discovery, the result of many years of incessant toil and research, has been deduced hy a train of reasoning and an examination o facts scarcely to be surpassed in the annals off science.

He announces his discovery in the following language: 'I therefore pronounce the Pleiades to be the central group of that mass of fixed stars limited by the stratum composing the Milky Way and Alcyene as the individual star of this group, which, among all others, combines the greatest probability of being the true Central Sun.'

By a train of reasoning, which I shall not attempt to explain, he finds the probable parallax of this great central star to be six thousandths of one second of arc, and its distance to be 34 millions of times the distance of the sun, or so remote that light, with a velocity of 12 millions of miles per minute, requires a period of 537 years to pass from *the great centre* to our sun.

As a first rough approximation, he deduces the period of the revolution of our sun, with all its train of planets, satellites and comets, about the grand centre, to be *eighteen millions two hundred thousand years.*

Ocean Steam Navigation.

The 'Ocean Steam Company,' which has the patronage of the United States Government to the amount of $400,000 per annum, are getting on rapidly with the first steamship of their line. She is to be completed and commence running on the first of March next.

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Employment.

It is dangerous for a man of superior ability to find himself thrown upon the world without some regular employment. The restlessness inherent in genius, being thus undirected by any permanent influence, frames for itself occupations out of accidents. Moral integrity sometimes falls a prey to the want of a fixed pursuit, and the man who receives his direction in active life from the fortuitous impulse of circumstances, will be very apt to receive his principles likewise from chance. Genius, under such guidance, attains no noble ends, but resembles rather a copious spring conveyed in a falling aqueduct, where the waters continually escape through the frequent crevices, and waste themselves ineffectually on their passage. The law of nature is here, as elsewhere, binding, and no powerful results ever ensue from the trivial exercise of high endowments. The finest mind, when thus destitute of a fixed purpose, passes away without leaving permanent traces of its existence; losing its energy by turning aside from its course, it becomes as harmless and inefficient as the lightning, which, of itself irresistible, may yet be rendered powerless by a slight conductor.

The Editor.

Write—keep writing—is the motto of an editor. If he has no ideas, he must dig for them; if he has but little time to arrange them, no matter, the work must be done.—Sickness may come upon him; want may stare him in the face, but he must cogitate something for the dear public. Perhaps in his darkest moments, he indites a paragraph that cheers thousands. When almost despondding, his words may put courage into the hearts of millions. Who would be an editor? Yet he has much to encourage him. If he can call no time his own, he is not rusting out, or in unprofitable society. A faithful contributor of the public press, is a man of great influence. No person has more power than himself. He instructs tens of thousands, and leads them to virtue, to honor, to happiness. No man will have more to answer for than the conductor of a corrupt and vascillating press.

A Mountain in Labor.

The workmen, says a Paris paper, are still busily engaged in excavating Montmarte in quest of holy vases and other riches said to have been deposited there in the early days of the French revolution by the orders of the Lady Superior of the Abbey of Montmarte.—Two workmen, who were at the time charged with transporting the wealth to the place designated, were never after seen, and it is supposed that they were sacrificed to the necessity of the secret. The Superior, at her death, bequeathed the secret to a lady friend, who, in turn, on her death bed, divulged it to her daughter, then thirteen years of age. The child, now a sexagenary, disclosed it to the municipality. Her statements have thus far been found scrupulously correct. The *cesarian* operation is actively going on, an excavation of 50 feet having been made, and the mountain's speedy deliverance of a mine of wealth is anticipated. May it not prove a mouse!

That Editorial Committee.

We are informed that the Editorial Committee of the National Association of Inventors have by *their own request* been discharged from the supervision of the new periodical which has recently appeared under the title of 'The Eureka.'

News by Telegraph.

The news by the Great Western which arrived on Wednesday week, was published within four hours in Boston, Few Haven, Springfield, Albany, Utica, Rochester, Buffalo, Philadelphia and Baltimore.

The following beautiful extract we find in a recent number of the New York Sun. It is from the pen of Mr. C. D. Stuart, the able correspondent of that paper, now in London.

'On remarking to an Englishman, that I did not see here in London as at home, the artizan, the drayman, the laborer of every kind, with a newspaper in his pocket, which at intervals in his toil he could glance at and be as learned in the condition of his country and the world as the man of fortune, he replied—"No, they have something better to do, they attend to their work." Here lies the rub, and it may be a fear of the sedition of thought that has put these close hampers upon the English press. It would seem by such an argument that the differences of condition are not induced by unholy oppressions, by the trampling for ages of one class upon another until servitude became almost a birth-right—and the law of strength that proved itself in barbarous times the "Supremacy" had at last from concession so long made, become the law of human justice and divine right. The steer may work under his yoke an appointed time, the slave bow mutely through his whole life, but the freeman—has he so fallen, that while the lord revels in his "club-room" and reads not only papers, but gilt edged and velvet bound books, he forsooth being a common "poor devil" not able to enjoy a tithe of his unearned luxury—has something better than reading to do. Let him dig then! There are those in the young republic whose spirit begins to animate the world, who, though they toil, remember, that it was said in the beginning to all men, "thou shalt earn thy bread by the sweat of thy brow," and will read freely as they drink in the common air, and enjoy the common light. There are classes in England intelligent no doubt beyond any other people in the world—classes that enjoy the means of making themselves so, but as a mass they will in no-wise compare with their progeny, the Anglo-Saxons. All that they have here in the main we have got, and our wits have not been blunted by a contact with the wilderness, and the difficulties of founding an empire "in the Woods." I see now more clearly than ever where our faults lie; contrast exposes them; but they are all twigs upon the rising trunk, which the keen knife of national experience, age, and the calm that must succeed the rush and tumult of our giant and boisterous infancy will cut off.—With greater pride than ever, however much I may like the Old World, and especially England, I look over the Ocean to America for an exemplification of what the world has not known, an *Earthly* paradise for humanity.—It is but three quarters of a century, remember, since we were nationally born: give us the fourteen hundred years that have nursed and cultivated this Island, and where is the limit of our perfection and strength? On either side of that Mississippi back-bone of ours to the Oceans, and as far north and south as freedom and knowledge can pierce, America must be a garden and a goal, filled with every excellence and beauty, beyond which there can be no advance. We shall not live to see it, but it will come, only let us pull careful and steady. We have been Dickens'd and Trollop'd, and it should do us good. Nothing but the grandeur that lies germinating in our heart provokes this idle spleen from our neighbors, and the moment we cool down and think and curb ourselves the rest is secure."

New Glass Factory.

Erastus Corning & Co. are about establishing a factory near the ferry at Troy, for the manufacture of all kinds of glass ware. The work is fast progressing, and in about four weeks they will commence blowing. It will afford employment to a large number of men, and will, no doubt, meet with that success which it certainly merits.

Result of Observation.

The editor of the New Haven Herald sets it down as a fact in natural history, proved by his experience for years, that when a traveller rides up to a toll gate, the keeper- if a man, invariably brings out a box, or a handful of change; but if a woman, she comes out and takes the traveller's coin, and then goes back for the change.

Snags and other obstructions in the Western rivers, are now denominated *Polk stalks*.

The Science of Astronomy.

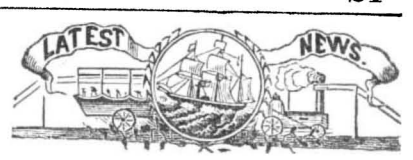
DESCRIPTIVE ASTRONOMY.

Mercury, the nearest planet to the sun, is a globe of about 3140 miles in diameter, rotating on its axis in 24 hours and 5 1-2 minutes, and revolving round the central luminary, at a distance of 37,000,000 of miles, in 88 days.—From the earth it can only be seen occasionally in the morning or evening, as it never rises before, or sets after the sun, at a greater distance of the time than 1 hour and 50 minutes. It appears to the naked eye as a small and brilliant star, but when observed through a telescope, is horned like the moon, because we only see a part of the surface which the sun is illuminating. Mountains of great height have been observed on the surface of this planet, particularly in its lower or southern hemisphere. One has been calculated at 10 3-4 miles in height, being about eight times higher, in proportion to the bulk of the planet, than the loftiest mountains upon earth. The matter of Mercury is of much greater density than that of the earth, equalling lead in weight; so that a human being placed upon its surface would be so strongly drawn towards the ground as scarcely to be able to crawl.

Venus is a globe of about 7800 miles in diameter, or nearly the size of the earth, rotating on its axis in 23 hours, 21 minutes, and 19 seconds, and revolving round the sun, at the distance of 68,000,000 of miles in 225 days.—Like Mercury, it is visible to an observer on the earth only in the morning and evening, but for a greater space of time before sunrise and after sunset. It appears to us the most brilliant and beautiful of all the planetary and stellar bodies, occasionally giving so much light as to produce a sensible shadow. Observed through a telescope, it appears horned, on account of our seeing only a part of its luminous surface. The illuminating part of Venus occasionally presents slight spots. It has been ascertained that its surface is very unequal, the greatest mountains being in the southern hemisphere, as in the case of both Mercury and the Earth. The higher mountains in Venus range between 10 and 22 miles in altitude. The planet is also enveloped in an atmosphere like that by which animal and vegetable life is supported on earth; and it has consequently a twilight. Venus performs its revolution round the sun in 225 days. Mercury and Venus have been termed the Inferior Planets, as being placed within the orbit of the Earth.

The Earth, the third planet in order, and one of the smaller size, though not the smallest, is important to us, as the theatre on which our race have been placed to 'live, move, and have their being.' It is 7902 miles in mean diameter, rotating on its axis in 24 hours, at a mean distance of 95,000,000 of miles from the sun, round which it revolves in 365 days, 5 hours, 56 minutes, and 57 seconds. As a planet viewed from another of the planets, suppose the moon, 'It would present a pretty, variegated, and sometimes a mottled appearance. The distinction between its seas, oceans, continents, and islands, would be clearly marked; they would appear like brighter and darker spots upon its disc. The continents would appear bright, and the ocean of a darker hue, because water absorbs the greater part of the solar light that falls upon it. The level plains, (excepting, perhaps, such regions as the Arabian deserts of sand) would appear of a somewhat darker color than the more elevated and mountainous regions, as we find to be the case on the surface of the moon. The islands would appear like small bright specks on the darker surface of the ocean; and the lakes and mediterranean seas like darker spots or broad streaks intersecting the bright parts, or the land. By its revolution round its axis, successive portions of the surface would be brought into view, and present a different aspect from the parts which preceded.'—(Dick's Celestial Scenery, 135.)

The form of the earth, and probably that of every other planet, is not strictly spheroidal; that is, flattened a little at the poles, or extremities of the axis. The diameter of the earth at the axis is 56 miles less than in the cross direction. This peculiarity of the form is a consequence of the rotatory motion, as will be afterwards explained.



Late Foreign News.

The steamer Hibernia arrived at Boston on Saturday last, thirteen days from Liverpool.

The British Government and people have manifested so much violent opposition to the marriage of the youngest son of Louis Phillipe to a sister of the Queen of Spain, that the celebration of the nuptials has been postponed for the present, if not forever; and there is apparent danger of a rupture between England and France on this account.

In Spain, Don Carlos having escaped from imprisonment, it is expected that a serious insurrection will immediately take place.

Property to the amount of $800,000 has been destroyed by incendiary fires at Leipsic. A line of electric telegraph has been put in operation between Brussels and Antwerp.

Twenty thousand bales of cotton were sold at Liverpool on the 14th of September.

Latest from the Army.

According to recent intelligence by private letters, Gen. Kearney has taken quiet possession of Santa Fe, notwithstanding the considerable preparations which the Mexicans had made to defend it. Gen. Armijo had assembled 5000 troops to defend the Canon Pass, but on account of the disaffection and insubordination of his officers and men, he was constrained to retreat on the approach of a few companies of Americans.

Gen. Taylor has advanced steadily, though slowly on Monterey, and has probably ere this, taken possession, notwithstanding the strong force, and full supply of well mounted cannon, concentrated to oppose him. Should he prove successful in this, it would seem that Mexico is destined to fall under the protection of the United States, whether our Government desires it or not. What can we do? The Mexicans will neither treat nor fight; and although our armies move as slow as possible, they cannot well avoid progressing through the country in time, and are bound to furnish protection as far as they go. We shall see.

The Sea and Wave Roaring.

The steamer Great Western, which arrived at this port last week, reports having encountered one of the most terrific storms ever known on the Atlantic Ocean. Capt. Mathews is said to have remarked that at three different times the ship was approached by seas of such magnitupe and power that he thought destruction inevitable; but unexpectedly each broke just before reaching the vessel. The passengers assembled in the cabin where they joined in religious service, and in the solemn administration of the Lord's supper. Their lives were preserved, but some of them appeared to forget their obligations to their preserver very quick after getting safe on shore.

An American Slave in England.

Douglas, who escaped from slavery and found his way to England, has received marked attention from the nobility and gentry of England. He has attended their soirees, occupied the most honorable positions at their dinner parties, rode in their carriages, flirted with their daughters, walked arm and arm through their gardens with lords, viscounts, counts and mayors of cities.

Many of the girls employed in the mills of the Nashua Corporation, have refused to work by candlelight. They may be right.

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Observations on the more recent Researches concerning the operations of the Blast Furnace in the Manufacture of Iron.

BY DR. J. L. SMITH.

The great difference existing between metalurgical operations of the present day, and those of a former period, is owing chiefly to the ameliorations produced by the application of the science of chemistry to the *modus operandi* of the various changes taking place during the operations, from their commencement to their termination.

Copper and some other metals are now made to assume forms in the chemist's laboratory, that formerly required great artistical skill for their production—the chemist simply making use of such agents and forces as are at his command, and over which he has, by close analytical study, acquired perfect control. Our object, at present, is only to advert to the chemical investigations more recently made on the manufacture of iron, treating of those changes that occur in the ore, coal and flux, that are thrown in at the mouth of the furnace, and in the air thrown in from below. For most that will be said on this subject, we are principally indebted to the recent interesting researches of M. Ebelman.

The importance of a knowledge of the facts to be brought forward, in this article, will be apparent to every one in any way acquainted with the manufacture of iron. It will be seen that the time is not far distant when the economy in the article of fuel will amount in value to the present profit of many of the works.—The consequences must be, that many of those works that are abandoned will be resumed, and others erected in localities formerly thought unfit.

It is well known that the blast furnace is the first into which the ore is introduced, for the purpose of converting it into malleable iron, and much, therefore, depends upon the state in which the pig metal passes from this furnace, whether subsequent operations will furnish an iron of the first quality or not.

In putting the blast furnace into operation, the first step is to heat it for some time with coal only. After the furnace has arrived at a proper temperature, ore, fuel and flux, are thrown in alternately, in small quantities, so as to have the three ingredients properly mixed in their descent. In from 25 to 48 hours from the time when the ore is first thrown in, the entire capacity of the furnace, from the tuyer to the mouth, is occupied with the ore, fuel and flux, in their various stages of transformation.

In order to explain clearly, and in as short space as possible, what these transformations are, and how they are brought about, we may consider:—1. The changes that take place in the descending mass, composed of ore, fuel and flux. 2. The changes that take place in the ascending mass, composed of air and its hygrometric moisture, thrown in at the tuyer. 3. The chemical action going on between the ascending and descending masses. 4. The composition of the gases in various parts of the furnace during its operation. 5. The causes that render necessary the great heat of the blast furnace.

1. *Changes that take place in the descending mass, composed of ore, coal and flux.*—By coal is here meant charcoal; when any other species of fuel is alluded to, it will be specified. In the upper half of the fire-room the materials are subjected to a comparatively low temperature, and they lose only the moisture, volatile matter, hydrogen, and carbonic acid, that they may contain; this change taking place principally in the lower part of the upper half of the fire-room.

In the lower half of the fire-room, the ore is the only material that undergoes a change, it being converted wholly or in part into iron or magnetic oxide of iron—the coal is not altered, no consumption of it taking place from the mouth down to the commencement of the boshes.

From the commencement of the boshes down to the tuyer, the reduction of the ore is completed. Very little of the coal is consumed between the boshes and in the upper part of the hearth; the principal consumption of it taking place in the immediate neighborhood of the tuyer.

The fusion of the iron and slag occurs at a short distance above the tuyer, and it is in the hearth of the furnace that the iron combines with a portion of coal to form the fusible carburet or pig-iron. It is also on the hearth that the flux combines with the siliceous and other impurities of the ore. This concludes the changes which the ore, coal and flux, undergo, from the mouth of the furnace to the tuyer.

If the fuel used be wood, or partly wood, it is during its passage through the upper half of the fire-room that its volatile parts are lost, and it becomes converted into charcoal. M. Ebelman ascertained that wood, at the depth of ten feet, in a fire-room twenty-six feet high, preserved its appearance after an exposure for 1 3-4 of an hour, and that the mineral mixed with it preserved its moisture at this depth; but three and a half feet lower, an exposure of 3 1-4 hours reduced the wood to perfect charcoal, and the ore to magnetic oxide. The temperature of the upper half of the fire-room, when wood is used, is lower than in the case of charcoal, from the great amount of heat made latent by the vapor arising from the wood. In the case of bituminous coal, Bunsen and Playfair find that it has to descend still lower before it is perfectly coked.

After the wood is completely charred, or the coal become coked, the subsequent changes are the same that happen in the charcoal furnaces.

To be continued.

Length of Days.

At Berlin and London the longest day has sixteen and a half hours. At Stockholm and Upsal, the longest has eighteen and a half hours, and the shortest five and a half. At Hamburg, Dantzic, and Stettin, the longest day has seventeen hours, and the shortest seven. At St. Petersburg and Tobolsk, the longest has nineteen, and the shortest five hours. At Toreno, in Finland, the longest day has twenty-one hours and a half, and the shortest two and a half. At Wandorbus, in Norway, the day lasts from the 21st of May to the 22d of July, without interruption; and in Spitzbergen, the longest day lasts three months and a half.

ANIMALCULÆ IN WATER.

The fact is generally known that nearly all liquids contain a variety of minute living animals, though in some they are too small for observation, even with a microscope. In others, especially in water that has been long stagnant, these animals appear not only in hideous forms, but with malignant and voracious propensities. The print at the head of this article purports to be a microscopic representation of a single drop of such water, with the various animals therein, and some of the inventors and venders of the various improved filters for the Croton water, would have no objection to the prevalence of the opinion that this water contains all the variety of monsters represented in this cut. But the fact is far otherwise; and it is doubtful whether these animals could frequently be detected in the Croton water, with the best solar microscope. Nevertheless, the fact is readily and clearly established that the Croton water contains a quantity of deleterious matter, which is arrested by the filters; and, on this account, we cheerfully and heartily recommend the adoption of filters by all who use this water, from either the public or private hydrants. To this end we would call the special attention of our city readers to the improved filters noticed under the head of "New Inventions."

Excitement of Curiosity.

The editor of the Cincinnati Enquirer, having been one of a recent excursion party on the opening of a new section of railroad, remarks on the occasion, 'It is really amusing to see the sensation a train of railroad cars produces on all animate beings, human and brute, for the first few times it passes over a section of road. We saw herds of cattle, sheep, and horses, stand for a few seconds and gaze at the passing train, then turn and run for a few rods with all possible speed, stop and look again with eyes distended, and head and ears erect, seemingly so frightened at the tramp of the iron horse as to have lost the power of locomotion. Men women and children also seemed dumbfounded at the strange and unusual spectacle. As the cars came rumbling along early in the morning, they seemed to bring everybody out of bed, all eager to catch a glance as we whirled past. Old men and women, middle-aged and youth, without waiting to put on a rag in addition to their night gear, were seen at the doors, windows and round the corners of log huts and dwellings, gaping with wonder and astonishment at the new, and to them grand and terrfic sight.'

[COMMUNICATED.]

At the last special meeting of the National Association of Inventors, called to hear the report on the rights aud duties of the Editors of the Eureka, on a resolution offered by one of the Editorial Committee who had been dissatisfied by the proceedings of the 'Acting Editors,' and refused to attend their sittings, it was reported that the 'Acting Editors,' had exceeded their authority, and a majority of the Editorial Committee resigned and a resolution was passed that the resignation should be published in the Eureka, but it has not appeared. Mr. Kingsley, one of the 'Acting Editors,' spoke at the said meeting of having consulted counsel who had declared that the Association were under a legal obligation to furnish Messrs. Kingley & Pirsson with matter for publication in the Eureka, and on the understanding that they had advanced money they were allowed to have the first use of the reports and advertisements of the Association. But as they in effect refuse to publish a resolution of great importance to the reputation of all the parties interested, it is left for the public to decide whether the 'Acting Editors' are in any respect entitled to the name they have assumed for their paper.

ONE OF THE EDITORIAL COMMITTEE.

HUMOROUS.

To my Sweetheart.

You're a broth of creature,
In form and in feature,—
It's myself that now tells you that same,
And sure, by my troth,
I'll not be very wroth,
If you'll plaze me by changing your name

What a swate little wife,
As a partner for life,
My darlint, 'tis you might be living;
And I'm just the boy,
To wish you much joy,
When your heart it's to me you'll be giving

I'm half dead—botheration!
With sad consternation—
Of your flirting it is that I'm speaking;
So plaze to be thinking,
When you're winking and blinking
It's my own honest heart that you're braking

The divil a haper,
Will I stand of a caper,—
'Twould kill me to find you deceiving;
By my sowl and I'd die,
And that same is no lie,
Before I'd be kilt by me grieving.

Then spake but the word.
My nate little bird,
That you're niver a man's but mine;
And straight to the praist,
It's myself that'll haste,
To make you my *swate valantine!*

[Teddy Magowan.

Boys and Men.

A youthful volunteer, the other day, out in Arkansas, was taunting a married gentleman, who had a wife and three small children depending upon him, for not rallying to the stardard of his country, soon after the requisition upon that State arrived. 'Tom,' said our friend, 'you *boys* can whip the Mexicans, but should old England take a hand in the pie, *I'll* join, for it will require *men* to whip the English.'

Trusting too Long.

We recollect that a weekly paper was started, some years ago, in one of the Western States, the terms of which were $2,50 in advance, $3 at the end of the year—to which the editor jocosely added in a paragraph, 'and $5 if never paid.' We think that most of his subscribers took the paper upon the latter terms, since it has been non est. He played a joke upon himself.

Business Stand.

A Frenchman, being about to remove his shop, his landlord inquired the reason, stating, at the time, that it was considered a very good stand for business. He replied, with a shrug of the shoulders, 'Oh, yes, he's very good stand for de businis; by gar, me stan' all day, for nobody come to make me *move!*'

Plain Directions.

Represent me in my portrait, said a gentleman to his painter, with a book in my hand reading aloud. Paint my servant also in a corner where he cannot be seen, but in such a manner that he may hear me when I call him.

Homogeneous.

Joe Snooks, seeing some farmer's boys employed, some at hoeing and others at mowing, in the same field, remarked that they were a *hoe-mow*-geneous set of fellows.

The Louisville Journal, philosophizing on the recent commencement of several newspapers, gives the following poetic remark:

'Income and ink'em,
Although you may link'em,
Are not such first cousins as some folks may think'em.'

We did not expect to mention large peaches again; but the Louisville Journal speaks of a lot which measured nearly *twelve inches* each, in circumference.

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Proposition of a New Patent Law.

The following remarks and proposition, which we copy from the 'Farmer and Mechanic,' was written by a prominent member of the National Association of Inventors, and expresses the sentiments of a large majority of the members of that Association. No person who carefully examines the subject, can fail of seeing that the cause of justice and equity, as well as the advance of improvement, would be promoted by the substitution of the principles therein expressed, in place of some of those embraced in the existing patent laws of the United States.

" We advance the principle, which may be novel to some, that if the inventor apply genius, time, toil, and capital, to produce anything he may consider valuable, he has the same right to the exclusive use and enjoyment of it as the man who may apply time, and toil, and capital, without genius. That the application of genius does not divest him of any right enjoyed by all others in society.

It is true, the creations of genius are sometimes intangible, but that is no objection; all rights are abstractions, until embodied in constitutions and laws, and rendered practical by penalties.

If an inventor can define the limits of his claim, he is entitled to protection in it just the same as when a deed is put on record, limiting the boundaries of a lot of ground. All rights to real property are traced back to original discovery and occupancy, and now all the inventor desires, or nearly all, in any patent law, is a simple registry, just as we find in our Halls of Record. The Commissioner of Patents should be called the Register of Patents. Indeed, grants of land, as they are termed, have frequently been registered by the name of patents, in our Halls of Records, so strong is the analogy, if not perfect similarity.

Then what should be the Patent Law? We answer, by sections, at once. The first should be declaratory of the rights of inventors, as follows:

SEC. 1. The application of capital, time, skill and ingenuity, to the production of new and useful discoveries, shall be protected under the 5th article of the Amendments to the Constitution, which forbids private use without the consent of the owner, and for public use without just compensation.

SEC. 2. Should any invention or discovery be deemed of great importance to the general prosperity, its value shall be appraised on the requisition of the Secretary of State, which value, when ascertained, as hereinafter provided, shall be paid to the inventor from the Treasury of the United States, and, until this payment shall take place, the discovery of any inventor duly qualified to take out a patent, shall remain his property, and inalienable without his consent or the consent of his legal representatives.

SEC. 3. Any inventor or discoverer who may desire a patent for any discovery of his own, shall make oath or solemnly affirm thereto, and any specification, drawing or model, he may see fit to deposite with the Register of Patents, shall be received by him and recorded, as a matter of evidence of original right.

SEC. 4. There shall be no salaried Examiners of Patents, but each patentee may contract on any terms he may see fit with any Patent Agent or Examiner, to examine the Records of the Patent office, on the payment of ten dollars fee for the use of the books and privilege of the Patent Office, and no more fees than this first $10 shall be charged on any single patent, excepting five dollars each for every record of transfer of rights or parts of rights. Nor shall the fees be raised until it may be discovered that they will not support the expenses of the Patent Office. And it is provided, no expenses for the improvement of agriculture, or any purpose foreign to the business of the registry of Patents, and the necessary books and buildings, and salaries of the register, librarian and two clerks and door-keeper, shall be charged upon the Patent Fund.

SEC. 5. The Commissioner of Patents shall give advice of a scientific and legal character as he may be desired and qualified to do, to inventors. He may guaranty the originality of any invention at his own risk, at any price he may agree upon with any inventor to give certificates thereof, and this shall not interfere with his regular salary. But it is provided that the Commissioner shall not in any manner prevent others from examining and guarantying the originality of any invention for which a patent may be desired. And it is also provided that any Commissioner, Register, Clerk, Attorney, Examiner or Agent, who may give a guaranty or warrant of the novelty of any invention shall be held responsible in costs on any information to be filed by any party who may feel himself agrieved, to rescind the patent which may not be an original invention of the claimant so guarantied.

SEC. 6. To rescind a patent, any party feeling himself aggrieved may file information in the District Court of the United States, of the district in which the patentee resides, notifying the patentee of such information filed, with what the former intends to prove, and where the patentee may discover the evidence relied upon by the informer, on which, the patentee may surrender his patent without costs should he so elect. But should the patentee determine to stand trial, he shall plead to such information within twenty days, denying the allegations of the informer, on which the trial shall proceed in its regular order on the calendar, and the patentee, if found wilfully and knowingly a monopolizer of the public rights, shall suffer costs and the reasonable expenses and counsel fee of the informer. And if such inventor shall make oath he has not been enabled to examine the proofs on which the informer relies to rescind his patent, he shall be allowed such further time as the court having jurisdiction may prescribe. And the court may make an order to the informer to exhibit fully his evidence of priority of invention, and no other evidence than has been exhibited to the inventor excepting rebutting, shall be introduced on the trial to rescind the patent.

SEC. 7. The Commissioner of Patents shall collect and keep in the Patent Office all the scientific works published and useful for references, and pay the expenses of the same from the patent fund. But the Commissioner shall not subscribe for more than three copies of any publication for the use of the office as aforesaid out of the Patent Fund.

SEC. 8. The application of any known machinery or matter of combination of machinery, or matter to new purposes or old purposes after a new method, or any means by which useful results are to be more advantageously produced than formerly, shall be the subject of a patent.

SEC. 9. A method, plan, design, or any new and useful idea, which can be defined, shall be the subject of a patent.

SEC. 10. A simple change of form shall not entitle any one to evade the patent of any inventor by a new patent.

The above are the principal improvements desired by inventors. Some think it not well to ask for all they want at once, but we think differently, for it will be said hereafter, when new amendments are desired, 'Gentlemen, you petitioned for the very provisions you now seek to have annulled. Your own committee was here at Washington assenting.' What answer will there be to this? None can be made without confusion of face for having ever assented to a wrong.

We do not desire to censure the committee charged with the mission to Washington.—They have thought to act prudently and for the greatest good. We differ only on the real expediency of the case. We do not believe that such men as Benton, Calhoun, and other kindred spirits, ask or desire anything but what they think is right.

They will not sacrifice their reputation against a body of men to whom the Republic owe so much, and who have so long suffered in silence. The law as it now stands, is an improvement on the former law, and consid-ering how low was the state of morals in former times respecting inventors, such sentiments as have been advanced by Judge Woodbury, and which are in spirit the same as the above, are destined ultimately to prevail. And those who choose to record their names in opposition are free to do so, as are also the tribe of persecutors who in all ages have stoned the prophets.

The principle endeavored to be followed throughout, is that of the common and statutes laws respecting the rights to real property. It may tend to create litigation, as to claims which are now refused entirely, but if no litigation or less is the grand desideratum, why not establish a dictatorship at once? The IPSE DIXIT of one man will then prevent all argument. But the rights of property and jury trial in all cases are ours by the constitution—and equally are we entitled by the constitution to the pursuit of happiness and wealth in ærial regions as on the common earth—and if we may not be divested of our other property without certain laws and a fair jury trial, why should we be of patent property? And if patent agents presume to beguile honest inventors, why should they not be held responsible? They may refuse to back their operations by a guaranty, but then the inventor has a right to know it, and to know he has a remedy, should they do so improperly. The Clerk of one of our Courts guarantied the searches of one of his Clerks as to a piece of real property, and had to pay some ten thousand dollars, and why should it not be so.

When a tailor makes a coat he warrants it to fit, and when a surgeon sets a leg unscientifically he is also responsible in damages to his patient, and as is an attorney for negligent practice. Holding examiners responsible will leave the patent office open to the filing of new claims at the same time that it will prevent a world of litigation, favoritism and corruption.

We are not striking at our present worthy Commissioner, Mr. Burke. We are friendly to him. But the more honest a man may be, the sooner will he find himself displaced, if the office he holds may be used to grasp a vast amount of patronage and property.'

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☞ THIS paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

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To those desiring Drawings or Specifications, Mr. B. has the pleasure of referring to Gen. Wm. Gibbs McNiel, Civil Engineer, Prof. Renwick, Columbia College, Prof. Morse, Jno. Lee.

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45to2ndv6 Patent Agent, 12 Platt street.

STATE OF NEW YORK.

SECRETARY'S OFFICE, ALBANY, July 24, 1846.

TO the Sheriff of the City and County of New York: Sir—Notice is hereby given, that at the next General Election, to be held on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:—A Governor and Lieutenant Governor of this State. 2 Canal Commissioners, to supply the place of Jonas Earll, junior, and Stephen Clark, whose terms of service will expire on the last day of December next. A Senatsr for the First Senatorial District, to supply the vacancy which will accrue by the expiration of the term of service of John A. Lott on the last day of December next. A Representative in the 30th Congress of the United States for the Third Congressional District, consisting of the 1st, 2d, 3d, 4th and 5th Wards of the City of New York. Also a Representative in the said Congress for the Fourth Congressional District, consisting of the 6th, 7th, 10th and 13th Wards of said City. Also a Representative in the said Congress for the Fifth Congressional District, consisting of the 8th, 9th and 14th Wards of said city. And also a Representative in the said Congress for the Sixth Congressional District, consisting of the 11th, 12th, 15th, 16th, 17th and 18th Wards of said City.

Also the following officers for the said County, to wit: 16 Members of Assembly, a Sheriff in the place of William Jones, whose term of service will expire on the last day of December next. A County Clerk in the place of James Conner, whose term of service will expire on the last day of December next, and a Coroner in the place of Edmund G. Rawson, whose term of service will expire on the last day of December next.

Yours, respectfully,
N. S. BENTON, Secretary of State.

SHERIFF'S OFFICE, New York, August 3d, 1846.

The above is published pursuant to the notice of the Secretary of State and the requirements of the statute in such case made and provided for.

WM. JONES, Sheriff
of the City and County of New York.

☞ All the public newspapers in the County will publish the above once in each week until election, and then hand in their bills so that they may be laid before the Board of Supervisors, ahd passed for payment.

See Revised Statutes, vol. 1, chap. vi. title 3d, article 3d—part 1st, page 140. aug18

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☞ NOTICE—R. C. WETMORE & CO. RETURN their thanks to the Fire Department and Police, for the zealous exertions used by them in saving the property in the store No. 85 Water street, at the fire this evening.

R. C. Wetmore & Co. desire especially to acknowledge the aid of his honor the Mayor, in preserving their books and papers.

Tuesday Night.

PROSPER M. WETMORE, Navy Agent, begs to return his grateful acknowledgment to his Honor the Mayor,, the members of the Fire Department, and Municipal Police, for the assistance rendered him in saving all the books and papers of the Navy Agency from the fire this evening, Tuesday night.

NOTICE.

The Office of the Navy Agent is removed for the present to the back office of the store No. 11 Broad street.

PROSPER M. WETMORE, Navy Agent.

☞ All city papers please copy, and send bill.
o10 3t

NEW IMPROVEMENT.—M. H. Mansfield, of Mifflintown, Juniata Co., Pennsylvania, has invented a new CLOVER HULLING MACHINE, which is one of the best inventions of the kind now in use. This machine will hull forty bushels of seed per day. Persons wishing to manufacture them can procure the right on moderate terms from the inventor. For further particulars, address

MARTIN H. MANSFIELD,
oct. 3 3t* Mifflintown, Juniata Co. Pa.

COPPER SMITH!—The subscriber takes this method of informing the public that he is manufacturing Copper Work of every description. Particular attention is given to making and repairing LOCOMOTIVE tubes. Those at a distance, can have any kind of work made to drawings, and may ascertain costs, &c., by addressing L. R. BAILEY, cor. of West and Franklin sts., N. Y.

N. B.—Work shipped to any part of the country.
45to2dv18*

ELECTRICITY.

SMITH'S CELEBRATED TORPEDO, OR VIBRATING ELECTRO MAGNETIC MACHINE—This instrument differs from those in ordinary use, by having a third connection with the battery, rendering them much more powerful and beneficial. As a CURIOUS ELECTRICAL MACHINE, they should be in the possession of every one, while their wonderful efficacy as a medical agent, renders them invaluable. They are used with extraordinary success, for the following maladies.

RHEUMATISM—Palsy, curvature of the Spine, Chronic Diseases, Tic-doloureaux, Paralysis Tubercula of the brain, heart, liver, spleen, kidneys, sick-headache.

TOOTHACHE—St Vitus dance, Epilepsy, Fevers, diseates of the eye, nose, antrum, throat, muscles, cholera, all diseses of the skin, face, &c.

DEAFNESS—Loss of voice, Bronchitis, Hooping cough.

These machines are perfectly simple and conveniently managed. The whole apparatus is contained in a little box 8 inches long, by 4 wide and deep. They may be easily sent to any part of the United States. To be had at the office of the Scientific Americcan, 128 Fulton st, 2nd floor, (Sun building) where they may be seen IN OPERATION, at all times of the day and evening. 2

GOLD PENS!!—In consequence of the increased facility afforded by machinery for the manufacture of my GOLD PENS, I am enabled to furnish them to the Trade, at a much less price than they have heretofore obtained them through my Agent.

Those purchasing direct of the manufacturer will have the double advantage of the lowest market price, and the privilege of returning those that are imperfect. In connection with the above, I am manufacturing the usual style of PENHOLDER, together with my PATENT EXTENSION PENHOLDER with PENCIL. All orders thankfully received, and punctually attended to. A. G. BAGLEY,
sept. 25 tf 189 Broadway, N. Y.

Engraving on Wood

NEATLY AND PROMPTLY EXECUTED AT the OFFICE OF THE SCIENTIFIC AMERICAN, 128 Fulton st, three doors from the Sun Office. Designs, DRAWINGS of all kinds for PATENTS, &c., also made, as above, at very low charges. 1

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Labor to make a Watch.

Mr. Dent, in a lecture delivered before the London Royal Institute, made an allusion to the formation of a watch, and stated that a watch consists of 992 pieces; and that 40 trades, and probably 215 persons are employed in making one of these little machines. The iron of which the balance wheel is formed, is valued at something less than a farthing; this produces an ounce of steel, worth 4 1-2 pence, which is drawn into 2,250 yards of steel wire, and represents in the market, 13*l*. 3*s*.; but still another process of hardening this originally a farthing's worth of iron, renders it workable into 7,650 balance springs, which will realize, at the common price, of 2*s*. 6*d* each 746*l* 5*s*, the effect of labor alone. Thus it may be seen that the mere labor bestowed upon one farthing's worth of iron, gives it the value of 950*l*. 5*s*, or $4,552, which is 75,680 times its original value.

Mule Boats.

This kind of conveyance is, we believe, peculiar to the Illinois River, for we never remember to have seen one belonging to any other stream. A year or two since, we were perfectly astonished at beholding the first one that ever arrived in this port; but now they are as common as the species usually termed *broad horns*, and their appearance creates about as much surprise and curiosity among the more aristocratic order of steam and sail. A genuine mule boat is not unlike an ocean steamer, as they are susceptible of being propelled both by steam and wind; with this difference, the mule-boat steam is generated upon the tread-mill plan, and by the united exertions of some half dozen quadrupeds, generally of the long-eared kind. To this treading or pulling apparatus are attached cylinder, pitt-man, boilers, &c., in the shape of some three or more cog-wheels, and immediately connected with them is a couple of shafts, which give a rotary motion to a couple of water-wheels, one on each side, and which usually propel a keel about 100 feet in length, and of about 75 tons burthen; over it is a roof and covering, usually called a cargo box, to protect the inside from the weather, and the whole making an appearance similar to an Ohio river keel boat, with the exception of a space left her to operate in. The difficulty and danger attending the management of a boat propelled by steam, is upon the mule boat entirely dispensed with.

There is no firing up, or blowing up; all that is necessary, when wishing to commence a journey, is to start, and when tired of going, all that is to be done is to stop the mules; in giving a lick ahead, they are all made to bounce at once, and in giving a lick back, they are turned around and made to pull the other way; and should the wind prove favorable, by means of a mast, with which they are all provided, sails can be hoisted, and the double power of mules and wind be put in requisition. This description of boat is getting to be quite fashionable on the Illinois and trlbutaries, and some two or three extend their trips to this city. They are a great benefit in low water, as they are of exceeding light draught, and the running of them is attended with but trifling expense. We learn that several new ones are in a state of completion, on the line of the Illinois, intended as regular traders up the Sangamon river, and from the head of navigation on the Illinois to this city. There is nothing like enterprise, or a mule boat on the Illinois, in a low stage of water, to get along.—[St. Louis New Era.

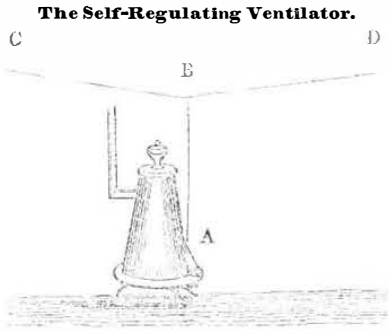
Discovery of Glass.

'As some merchants,' says Pliny, 'were carrying nitre, they stopped near a river which issues from Mount Carmel. As they could not readily find stones to rest their kettles on, they used for this purpose some of these pieces of nitre. The fire, which gradually dissolved the nitre, and mixed it with the sand, occasioned a transparent matter to flow, which in fact was nothing less than glass.'

Pumping the water out of Lake Michigan.

It is well known to our readers that, by an arrangement with the English bond holders, the State of Illinois has given over to them the unfinished canal, from the waters of Lake Michigan, at Chicago, to the Illinois river.—They are about completing it, but the principal difficulty now is, to supply it with water, owing to the level of the lake being *eight* feet below the bottom of the canal. To overcome this, the present company, after various propositions, finally bethought themselves of raising the water of the lake, so as to supply the canal. They went to Messrs. Knapp & Totten, of this city, and furnished them with a data to calculate whether it could be done, and what force and what machinery would accomplish it. These gentlemen soon furnished an answer, and the other day received an order to build some powerful machinery for that purpose,—a steam engine and *eight* pumps of four and a half bore and six feet stroke. We are glad to hear that this eminently scientific firm have been selected to execute this order. Their shop and mechanical force are not excelled by any establishment in the United States.—[Pittsburg Gaz.

The Self-Regulating Ventilator.



Explanation :—This is a cheap and simple but scientific apparatus for regulating the air-vent of a common, cheap stove, according to the temperature of the atmosphere in the room in which it is located. The draught door is a plain iron door, hung by a common hinge joint at the upper end; and to the front of the hinge is attached a piece of brass wire, which extends vertically nearly to the top of the room, and is connected at B to a horizontal brass wire C D. This is the only apparatus required, but must be so adjusted as to allow the door to be closed, or nearly so, when the temperature is about right. If the temperature rises above that point, the horizontal wire will immediately expand so as to allow the door to close. But as soon as the temperature begins to fall, the wire contracts and opens the vent. On this principle the apparatus will readily find a medium, and there remain, varying only occasionally to accommodate itself to the variations of the quanti ty of fuel in the stove. The entire expense of this apparatus, exclusive of the stove, will not exceed 50 cents. It is generally conceded that a large portion of cases of colds, coughs, &c. are occasioned by irregularities of the temperature of sitting-rooms; but with this plan of regulation this evil may be avoided without any material expense.

New Paper Mill.

Mr. C. C. P. Moses has erected a fine brick building, 75 by 38 feet, three stories high, on the site of the old foundry, at Dover, N. H., for a paper mill. The cost is estimated at $12,000 to $15,000. The rooms are constructed and furnished in a complete manner for carrying on the paper making business in all its departments. The works are nearly completed, and will be in operation in five or six weeks.

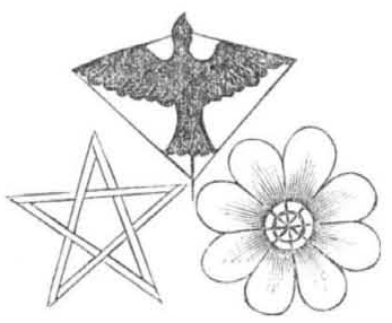
New Mill at Lowell.

The Merrimack Company have in progress of erection the largest mill in Lowell, and which is calculated to employ from 300 to 400 operatives. The building is nearly finished, and the machinery is to embrace the latest improvements in this or any other country.

Machine Shop.

A new machine shop is about commencing operation in Norwich: about half a mile north-east from the railroad depot. The building is 100 by 40 feet, and is calculated to employ 60 hands in the manufacture of steam engines and manufacturing machinery. The work at this shop will be finished in the best style and at moderate prices.

Ornamental Kites.



This month being considered as one of the best for flying kites, we may indulge our young friends with an article on that subject. The principle on which kites are made to ascend by the action of the wind, is too well understood, even by children, to require explanation. We shall merely introduce and describe some fancy models of kites, which are not often seen. The pattern, fig. 1, which is the figure called a star, is very easily made. The frame consists simply of five strips, or rods of light wood; spruce timber, willow twigs—and interlocked, as shown in the cut; so that each rod shall pass alternately over and under the other rods at each intersection. These rods being lashed together at the points, the whole frame is covered with white or yellow paper, and the twine is attached to three of the angles of the star.

The eagle, fig. 2, is but little more difficult: a rod extends from the beak to the tail, and is crossed by another which extends from tip to tip of the wings. The rods being lashed together, a small thread is drawn from the place of the head of the eagle, to the two extremeties of the wings, and thence to the leeward end of the centre rod. This thread should be white or light blue, and will not be visible when aloft; but the form of the eagle should be made of black, dark or brown paper. The paper eagle must be sewed to the several threads, and two or more threads may extend from the wings to the centre rod to support the feathers of the wings. The eagle kite appears curious, but is not so elegant as

The Rose, fig. 3. To construct this figure there must be four light rods of wood, made to cross each other in the centre, being there lashed together, and thus constituting eight arms. From the end of each arm, a thin strip of light wood or reed, is bent in a curved form to the next arm on either side: the bow being lashed to the arms. This frame is covered with white paper, which is to be afterward colored with rose color, with the yellow centre. The twine must be fastened to four of the arms, and the tail of the kite should be covered with green paper, which by the contrast, will have a pleasing effect.

Rochester Edge Tools in England.

Some time since, a Mr. Ash, an extensive manufacturer of Mechanics' Tools at Sheffield, England, sent to this country for patterns of the latest improvements, and amongst the rest, ordered a variety from Messrs. Barton & Belden of Rochester, which were promptly forwarded. On their arrival there, it seems that their make gave such universal satisfaction, that they were immediately copied, and the fact that they came from this country made prominent, by stamping upon them 'Rochester Pattern.'

An Animal Curiosity.

Travellers state that there is on the island of St. Luce a cavern, in which is a large basin twelve or fifteen feet deep, at the bottom of which are rocks. From these rocks proceed certain substances that present at first sight beautiful flowers, but on the approach of a hand or instrument, retire like a snail, out of sight! On examination, there appears in the middle of a disk, filaments resembling spiders, legs, which moved briskly round a kind of petal. The filaments, or legs, have pincers to seize their prey, when the petals close, so that it cannot escape. Under this flower is the body of an animal, and it is probable he ives on the marine insects thrown by the sea nto his basin.

The first clock that measured time wa made for the Caliph of Bagdad. This art was afterwards lost for veral centuries.

Skate Runners.

At Drontheim, in Norway, they have a regiment of soldiers, called Skate Runners. They wear leg gaiters for travelling in deep snow, and green uniform. They carry a short sword, a rifle fastened by a broad strap passing over the shoulder, and a climbing staff seven feet long, with a spike in the end. They move so fast in the snow that no cavalry can overtake them, and it does little good to fire cannon balls at them, as they go two or three hundred feet apart. They are very useful soldiers in following an enemy on a march. They go over marshes, rivers and lakes at a great rate.

A Receipt to make Peach Wine.

Take four or five bushels of ripe juicy peaches, mash or bruise them in a tub, and pour them into a barrel, large enough to contain them, and place it in a cool place. At the bottom of the barrel, before putting in the peaches, some clean straw must be placed to prevent the pumice from filling up the spigot. The head of the barrel must be covered. In about three days the Peach Wine is ready for use. Draw it off, from the spigot, and if care and attention have been adopted, a delicious beverage will be produced.

A Novel Enterprise.

An expedition, which promises the most important results both to science and commerce is at this moment fitting out in England, for the purpose of navigating some of the more important unexplored rivers in South America. It is to be under the command of Lord Ranelagh. Several noblemen and gentlemen have already volunteered to accompany his lordship, and the enterprising and scientific band, it is said, will sail as soon as the necessary arrangements shall be completed.

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